
Section 8

System Operation

Operation of the control panel is simple. Menus guide you step-by-step through operations. This section of the manual is an overview of the operation menus. Please read this entire section carefully before operating the panel.

Press **ENTER** to view Main Menu: Select the desired menu option. Enter your access code if prompted.

Note: See Section 7.8 for information on how to modify user access code profiles.

Default Codes:

User Code (factory-programmed as 1111).

Installer Code (factory-programmed as 123456).

8.1 Annunciator Description

Figure 10-1 shows the annunciator that is part of the control panel board assembly.

Five LEDs indicate system status.

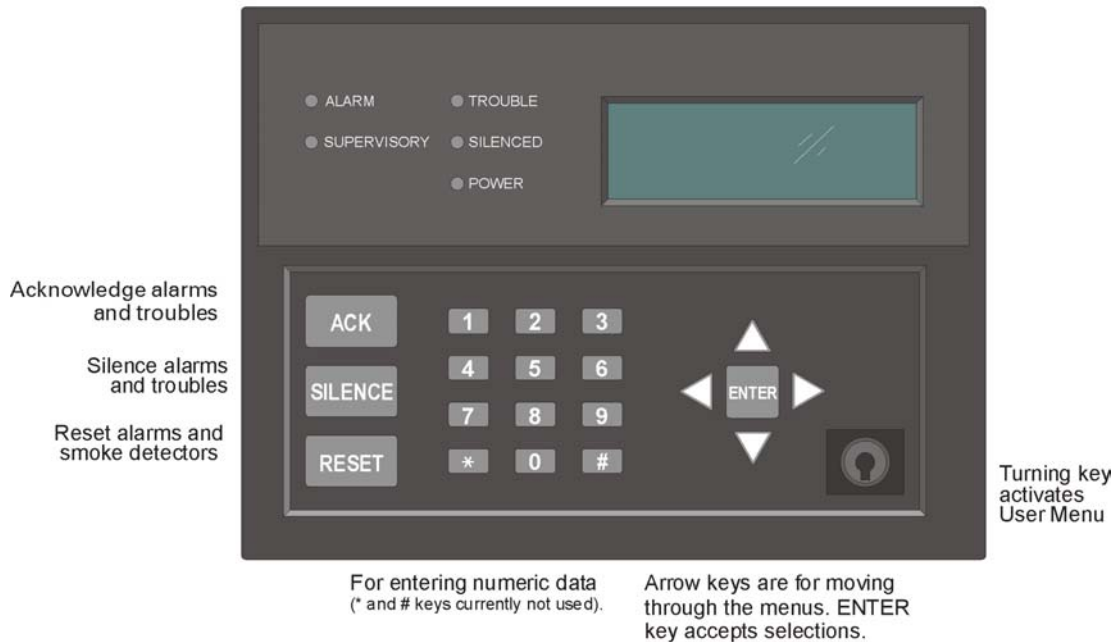


Figure 8-1 Control Panel Annunciator

8.1.1 LCD Displays

The control panel LCD displays system messages, annunciates alarms, supervisories and troubles; provides status information; and prompts for input. These messages can be up to 80 characters, displaying over four lines of 20 characters each. Annunciator keys beep when they are pressed.

8.1.2 Banner

The banner is the message that displays on the control panel when the system is in normal mode (no alarm or trouble condition exists and menus are not in use). You can create a customized message that will display instead of the internal (default) message. See Section 7.5.6 for information on customizing the banner.

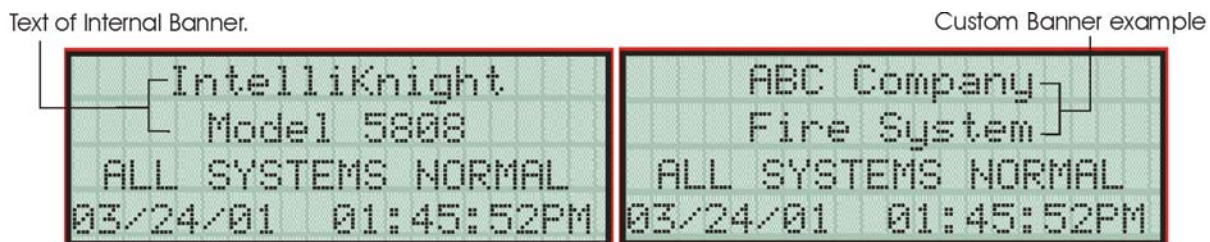


Figure 8-2 Banner Display Examples

8.2 Key Operation

The key on the control panel board assembly is for accessing the User Menu for basic system operation. The key is activated when it is turned once to the right (clockwise). If the key has been used to activate the menu, it must be turned counter-clockwise to exit the menu.

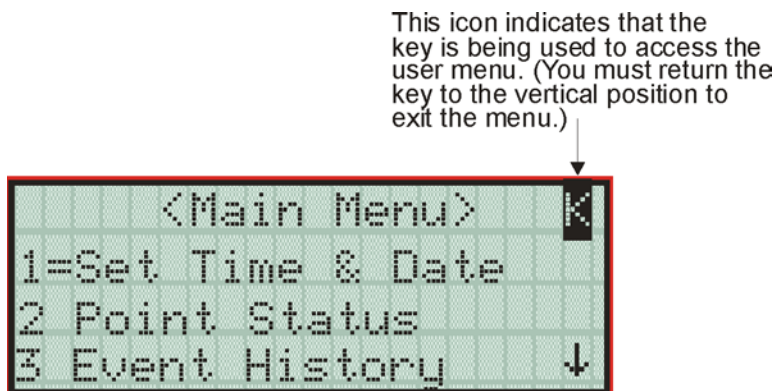




Figure 8-3 Using a Key to Access the User Menu

8.3 Menu System

The control panel is easy to operate from Main Menu. To view the Main Menu press the  or  button on the control panel or remote annunciator, then turn the firefighter's key clockwise or enter your access code. The Main Menu will appear as shown in Section 8.3.1. Select the desired option. If you have entered a code or firefighter's key does not have access to the menu item you have selected the following display message will appear:

-Access denied.-
Entered PIN does not
allow access to this
function.

You must enter an access code with the correct profile settings to gain access to that menu item.

The control panel supports up to 20 access codes. The profile for each access code (or user) can be modified through the programming menu option (see Section 7.8 for access code programming).

8.3.1 Main Menu Overview

The chart below is a brief overview of the Main Menu. These options are described in greater detail throughout this section of the manual.

Main Menu Options	Description
1 System Tests	From here both menus can access Fire Drill and Indicator Test.
2 Point Functions	From here both menus can enable / disable points.
3 Event History	Display event history on the LCD. See Section 8.4.3 for more information.
4 Set Time and Date	Set time and date for the system.
5 Printer Options	Options for controlling a printer if attached to the system. If a printer is used, the Model 5824 Serial/Parallel Interface must be used.
6 Reset Dialer	Cancel any attempt to call the central station. Any calls awaiting additional attempts will be aborted.
7 Program Menu	Brings up a set of menus for programming the panel, including changing access codes. These options are described in detail in Section 7.
8 System Info	View system information, including model and serial numbers and revision number and date.
9 Up/Download	Initiate communication from the panel site between the panel and a computer running the Silent Knight Software Suite.

8.3.2 Using the Menus

To move through the menus:	Use ▼ and ▲ to move through the options in a menu. Use ← to move to a previous menu.
To select an option:	Enter the number of the option. -OR- Press ENTER (Enter key) if the option appears at the top of the menu (= symbol displays after the option number in this case).

8.4 Basic Operation

8.4.1 Setting Time and Date

1. From the Main Menu, select **4** for Set Date and Time.
2. Make changes in the fields on the screen. Use ► (right arrow) to move through the fields. Use the ▼ and ▲ to select options in the fields.
3. When the date and time are correct, press **ENTER**.

8.4.2 Disable / Enable a Point

1. From the Main Menu, select **2** for Point Functions.
2. Select **1** for Disable/Enable Point. A list of modules displays.
3. Use ▼ and ▲ to move through the list. Press **ENTER** to select the module where the point you want to disable/enable is located. A description of the point should display. The fourth line of the screen should show "NORMAL" (meaning that the point is currently enabled) or "DISABLED" (the point is currently disabled). Press ← to toggle between NORMAL and DISABLE.

8.4.3 View Event History

Use the View Event History feature to display events on LCD. From the Main Menu, press **3** to select Event History. Events will begin displaying with most recent events first.

The panel can store up to 1000 events. When it reaches its 1000-event capacity, it begins deleting, starting with the oldest events.

If a printer is attached to the system (via a Module 5824 Serial/Parallel Interface), you can print event history (see Section 8.4.16).

The Silent Knight Software Suite (SKSS) can be used to retain more than 1000 events and to create event history reports.

8.4.3.1 To clear the event history

From the Installer menu select **[1]** for System Tests. From the test menu select **[6]** Clear History Buffer.

8.4.4 Conduct a Fire Drill

1. From the Main Menu, press **[1]** for System Tests.
2. Press **[1]** for Fire Drill. You will be prompted to press **[ENTER]**.
3. The drill will begin immediately after you press **[ENTER]**.
4. Press any key to end the drill. (If you do not press any key to end the fire drill manually, it will time out automatically after one hour.)

If a fire drill switch has been installed, activating the switch will begin the drill; deactivating the switch will end the drill.

8.4.5 Conduct an Indicator Test

The indicator test checks the annunciator LEDs, PZT, and LCD display.

1. From the Main Menu, press **[1]** for System Tests.
2. Press **[2]** for Indicator Test. The system turns on each LED several times, beeping the PZT as it does so. At the same time it scrolls each available character across the LCD. A problem is indicated if any of the following occurs:
 - An LED does not turn on;
 - You do not hear a beep;
 - All four lines of the LCD are not full.

This test takes approximately 15 seconds to complete. You can press any key to end manually while the test is still in progress. When the test ends, you will be returned to the <Test Menu>.

8.4.6 Conduct a Walk Test

1. From the Main Menu, press **[1]** for System Tests.

IMPORTANT!

If any alarm verification zones are being used, the user will be asked if they wish to disable alarm verification during walk test. This occurs for either walk test option.

2. Select **[3]** for Walk Test-No Rpt. The LCD will display "WALK TEST STOPPED" on Line 1 and "ENTER = start test" on Line 2. If you select this option, central station reporting will be disabled while the test is in progress.

Select **[4]** for Walk Test-with Rpt. The LCD will display "WALK TEST STOPPED" on Line 1 and "ENTER = start test" on Line 2. If you select this option, central station reporting will occur as normal during the walk test.

The panel generates a TEST report to the central station when the walk test begins. During a walk test, the panel's normal fire alarm function is completely disabled, placing the panel in a local trouble condition. All zones respond as 1-Count zones (respond when a single detector is in alarm) during a walk test. Each alarm initiated during the walk test will be reported and stored in the event history buffer.

3. Press **[ENTER]** to end the walk test. The system will reset. The panel will send a "TEST RESTORE" report to the central station.

If you do not end the walk test manually within 60 minutes, it will end automatically.

If an alarm or pre-alarm condition is occurring in the system, you will not be able to enter the walk test.

Note: the panel does not do a full 30 second reset on resettable power outputs. As soon as the device is back to normal, the panel is ready to go to the next device.

8.4.7 Conduct a Dialer Test

1. From the Main Menu, press **[1]** for System Tests.
2. Select **[5]** for Dialer Test. The screen will display "Manual dialer test started". When the test is completed, you will be returned to the <Test Menu>.

8.4.8 Silence alarms or troubles

Press **[SILENCE]** and enter your code or rotate the key at the prompt. If an external silence switch has been installed, activating the switch will silence alarms or troubles. If you are already using system menus when you press **[SILENCE]**, you will not need to enter your code or rotate the key.

Note: Alarm and trouble signals that have been silenced but the detector remains un-restored will un-silence every 24 hours until it is restored.

8.4.9 Reset alarms

Press **[RESET]** and enter your code or rotate the key at the prompt. If an external reset switch has been installed, activating the switch will reset alarms. If you are already using system menus when you press **[RESET]**, you will not need to enter your code or rotate the key.

8.4.10 Check Detector Through Point Status

The control panel constantly monitors smoke detectors to ensure that sensitivity levels are in compliance with NFPA 72.

If sensitivity for a detector is not in compliance, the panel goes into trouble, generating a CAL TRBLE condition. A detector enters a CAL MAINT state to indicate that it is approaching an out of compliance condition (but is currently still in compliance).

When a CAL TRBLE condition occurs, the central station receives a detector trouble report (“373” + Zone # for Contact ID format; “FT” + Zone # in SIA format).

To check sensitivity for an individual detector, follow the steps below. Section 8.4.16 provides instructions for printing the status of all detectors in the system.

1. From the Main Menu, press **[2]** for Point Functions.
2. Press **[2]** for Point Status.
3. Select the module where the point you want to check is located.
4. Enter the number of the point you want to check and press **[ENTER]**.
5. A screen similar to those shown in Figure 8-4 will display.

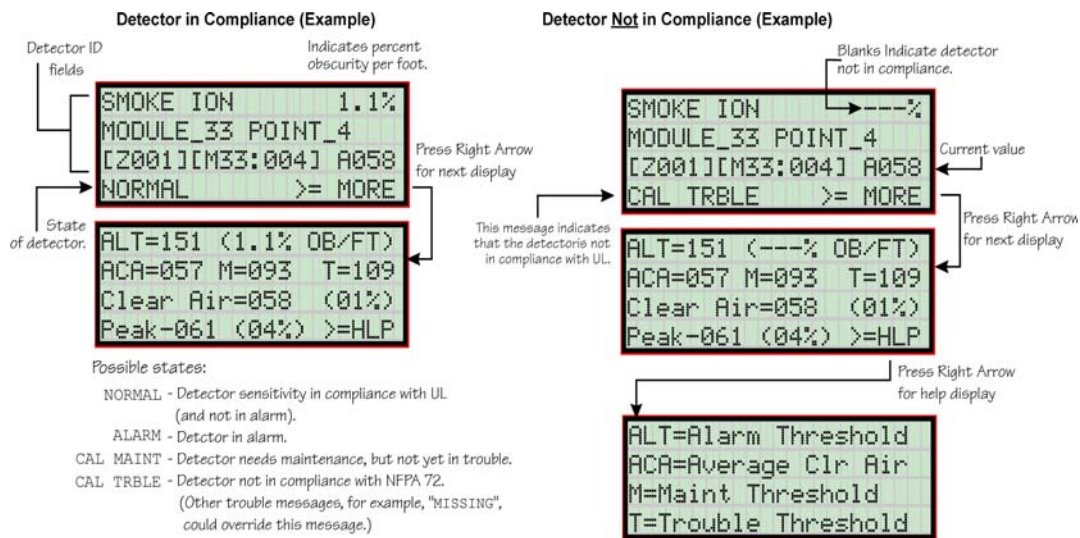


Figure 8-4 Checking Detector Sensitivity Compliance

If a printer is attached to the system (via a Module 5824 Serial/Parallel Interface), you can print detector status (see Section 8.4.16).

8.4.11 View Status of a Point

1. From the Main Menu, select **2** for Point Status.
2. From the list that displays, press **ENTER** to select the module where this point is located. The screen that displays will show you if the point has a trouble and will provide sensitivity compliance information. (See Section 8.4.10 for complete information about detector sensitivity compliance.)

8.4.12 View Alarms or Troubles

When the system is in alarm or trouble, you can press **▽** to view the location of an alarm or trouble. See Section 8.4.12 for more information.

8.4.13 View System Information

Press **8** from the Main Menu to view the panel model and serial number and system version number and date. The information displays for several seconds then returns to the main menu.

8.4.14 Reset dialer

From the Main Menu, select **6**. The LCD will display “Dialer reset in progress...” You will be returned to the Main Menu when the reset is completed.

8.4.15 Communicating with a Remote Computer

An installer at the panel site can initiate communications between the panel and a computer running the Silent Knight Software Suite. You can use this feature to upload a panel configuration. For example, if you have made programming changes to an installation on site using an annunciator, you can send your changes to the computer, so that the central station will have the latest data about the installation. To initiate communication, follow the steps below.

1. From the Main Menu, select **[9]** for Up/Download.
2. From the next screen that displays, select the communication device. Options are:

[1] = Internal Modem	If you select this option, you will use the panel's built-in modem to call the panel.
[2] = RS232 connection	If you select this option, the panel and a computer are both on-site connected via a 9-pin straight-through serial cable.
3. If you are using the panel's internal modem to communicate, you will be prompted to enter a phone number. If you are communicating via the RS232 connection, a phone number is not needed and this step will be skipped.

If the phone number you will be calling is already displayed, press **[ENTER]**. Continue with Step 4.

If the phone number you will be calling is not already displayed, enter the number and press **[ENTER]**. A phone number can be up to 24 digits long and can contain the following special characters.

#	Pound (or number) key on the telephone
*	Star key on the telephone
,	Comma (character for 2-second pause)

Use the number buttons on the annunciator or the up- and down-arrow keys to select special characters. Characters begin displaying after "9".

4. You will be prompted to enter an account number. If the account number you want to use is already displayed, just press **[ENTER]** to begin communication.

If the account number displayed is not the correct one, enter the account number and press **[ENTER]** to begin communication.
5. The panel will attempt to communicate with the computer. If communication was established, the upload task you created will be placed on the Downloading Software job queue, awaiting processing. When processing is completed, an "Unsolicited Upload" task will appear in the queue.

8.4.16 Working with a Printer

If you are using the Model 5824 Serial/Parallel Interface, several printing options are available. See Section 4.6 for information about installing the 5824.

1. From the Main Menu, select **[5]** Printer Options.
2. From the next screen, select the 5824 module where the printer is connected.
3. If the printer is not currently busy printing another report, a screen with the following options will be available. If the printer is busy, a message will display. You can press **[1]** to cancel the current print job. These options will then display.

[1] = Event Logging

Enables event logging, which causes the printer to continuously print events as they occur. The date/time will print in 24-hour military format. Once event logging is enabled, it will remain enabled until canceled by the installer. If you need to disable event logging, return to this option and press **[1]** to disable.

Sample Event Log

```

EVENT LOG:                                     STARTED: 02/17/97 02:23
02/17/97 11:23 Event: System Silenced
02/17/97 11:24 Event: System Reset
02/17/97 14:30 Event: Local Programming Begin
02/17/97 15:01 Event: Local Programming Ended Successfully

EVENT LOG:                                     STOPPED: 02/17/97 15:02
    
```

[2] = Print Event History

Prints the up-to-1000 events currently stored in the panel's event history buffer. Events print starting with the newest. The date and time printed will be when the event actually occurred and will print in 24-hour military format.

Sample Event History Print-Out

```

EVENT HISTORY:                                PRINTED: 02/28/97 13:35
02/20/97 09:02 Event 3 of 10: System Silenced
02/20/97 09:05 Event 2 of 10: System Reset
02/22/97 08:47 Event 4 of 10: Printer Off Line 4
02/22/97 08:52 Event 4 of 10: Printer On Line 4
02/25/97 15:54 Event 5 of 10: Local Programming Begin
02/25/97 16:10 Event 5 of 10: Local Programming Ended Successfully
02/28/97 12:50 Event 6 of 10: Walk Test Begin
02/28/97 13:31 Event 2 of 10: Walk Test End
:
:
:
    
```

[3] = Print Detector Status

Prints the current status of all detectors in the system. This is a method for finding out if any detectors are out of NFPA compliance or any detectors need maintenance (are approaching an out of compliance condition).

Sample Detector Status Print-Out

```

DETECTOR STATUS:                             PRINTED: 06/09/98 13:45
NFPA72 Compliant
Peak Percent Alarm
Peak Clear Air
Current Percent Alarm
Clear Air Value
Trouble Threshold
Maintenance Threshold
Average Clear Air
Alarm Threshold Level
Sensitivity %ob/ft or deg F
Zone Number

ID NAME      TYPE  ZN  SENS  ATL  ACA  MT  TT  CAV  %A  PCA  %A  STATUS
-----
Module 33---
063 MODULE_33 POINT_3  PHOTO  1  ---  240 141  83  94 140  0 141  0  CAL  TRBL  N
065 MODULE_33 POINT_65  HEAT   1  150  150  0  N/A  N/A  73  48  73  48  NORMAL  Y
066 MODULE_33 POINT_66  HEAT   1  150  150  0  N/A  N/A  73  48  73  48  NORMAL  Y
067 MODULE_33 POINT_67  HEAT   1  150  150  0  N/A  N/A  73  48  73  48  NORMAL  Y
068 MODULE_33 POINT_68  HEAT   1  150  150  0  N/A  N/A  73  48  73  48  NORMAL  Y
    
```

Note: Detector status can also be viewed and printed using the SKSS or SKSS Facility Management Software.

8.5 Operation Mode Behavior

The control panel can be in one of seven conditions at any given moment: Normal, Alarm, Prealarm, Supervisory, Trouble, Silenced, and Reset. Table 10-1 describes the behavior of the panel in each of these modes.

Table 8-1: Operation Mode Behavior

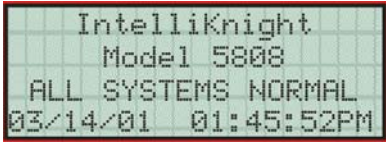
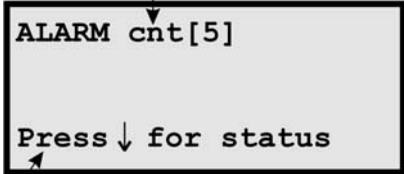
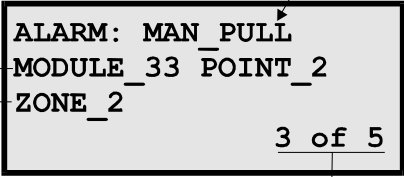
Operation Mode	Occurs When	System Behavior	In This Mode You Can
Normal	No alarm or trouble condition exists and menus are not in use.	<p>SYSTEM POWER LED is on.</p> <p>The All Systems Normal display indicates that the system is in normal mode.</p>  <p>The current date and time display on the last line of the LCD.</p>	Enter the appropriate code, or rotate the key to activate the Main Menu.
Alarm	A smoke detector goes into alarm or a pull station is activated.	<p>The dialer seizes control of the phone line and calls the central station.</p> <p>The on-board annunciator sounds a loud, steady beep (any notification devices attached to the system will also sound).</p> <p>GENERAL ALARM LED flashes.</p> <p>The LCD displays a screen similar to this one.</p> <p>Count of alarms in the system In this example there are 5.</p>  <p>Press the down arrow to view the type and location of alarm. (Message alternates with the date/time display.)</p>	<p>Press the down arrow to view the alarm. A screen similar to this one displays.</p>  <p>Module and Point name Device type</p> <p>Zone name</p> <p>Shows which event is currently being displayed. In this example, there are 5 alarms, the third is being displayed.</p> <p>Press SILENCE and enter an access code (or activate the key) to silence the annunciator (and any notification devices attached to the system).</p> <p>When the alarm condition clears, press RESET and enter a code (or activate the key) to restore the panel to normal.</p>

Table 8-1: Operation Mode Behavior

Operation Mode	Occurs When	System Behavior	In This Mode You Can
<p>Prealarm</p>	<p>A single detector trips in a 2-Count zone. (2-Count means two detectors must trip before an alarm is reported.)</p>	<p>Touchpad PZT beeps. The LCD displays a screen similar to this one.</p> <p>Count of alarms in the system In this example there is 1.</p> <div data-bbox="524 501 911 667" style="border: 1px solid black; padding: 5px; text-align: center;"> <p>PREALARM cnt[1]</p> <p>Press ↓ for status</p> </div> <p>Press the down arrow to view the type and location of prealarm. (Message alternates with the date/time display.)</p>	<p>Press ▼ (down arrow) to view the prealarm. A screen similar to this one displays.</p> <p>Module and Point name Device type</p> <div data-bbox="989 428 1398 604" style="border: 1px solid black; padding: 5px; text-align: center;"> <p>PREALARM: SMOKE- PHOTO MODULE_33 POINT_2 ZONE_2</p> <p style="text-align: right;">1 of 1</p> </div> <p>Zone name Shows which event is currently being displayed.</p> <p>All system operations are available in this mode.</p>
<p>Reset</p>	<p>The RESET button is pressed followed by a valid code or rotation of the key.</p>	<p>All LEDs are on briefly then the LCD displays "ALARM RESET IN PROGRESS". If the reset process completes normally, the date and time normal mode screen displays.</p>	<p>Menus are not available during the reset process.</p>
<p>Silenced</p>	<p>An alarm or trouble condition has been silenced but still exists. To silence alarms and troubles, press SILENCE followed by the Installer or User Code or rotate the key.</p>	<p>SYSTEM SILENCE LED is on. SYSTEM TROUBLE, SUPERVISORY or GENERAL ALARM LED (depending on condition) is on. The annunciator (and any notification devices attached to the system) will be silenced.</p>	<p>Press ▼ (down arrow) to view the location of the alarm or trouble. When the condition no longer exists, the SYSTEM SILENCED and SYSTEM TROUBLE LED, SUPERVISORY or GENERAL ALARM LEDs turn off.</p>

8.6 Releasing Operations

This control panel supports two types of releasing, Double Interlock Zone, and Single Interlock Zone. The Double Interlock Zone operation requires an interlock switch input in the system, and the Single Interlock does not. An interlock switch is typically a dry-contact pressure switch.

When a Single or Double Interlock Zone releasing is selected the system will automatically default the following system parameters:

Note: The defaults created can be modified through programming if desired.

- Output Group 2 is created. Output Group 2 will be defaulted as an "Alarm" output group for all releasing zones. NAC [34:001] is assigned to Output Group 2.
- Output Group 3 is created. Output Group 3 will be defaulted as an "Pre-Alert" output group for all releasing zones. NAC [34:002] is assigned to Output Group 3.
- Output Group 4 is created. Output Group 4 will be defaulted as a "Release" output group for all releasing zones. NAC circuit [34:003] is assigned to Output Group 4.

Note: The installer must define which input points will be used for detectors, manual release switches, or interlock/pressure switches.

Table 8-2: Approved Releasing Solenoids

Manufacturer	Part Number	Rating
Asco	T8210A107	24 VDC
	8210G207	24 VDC

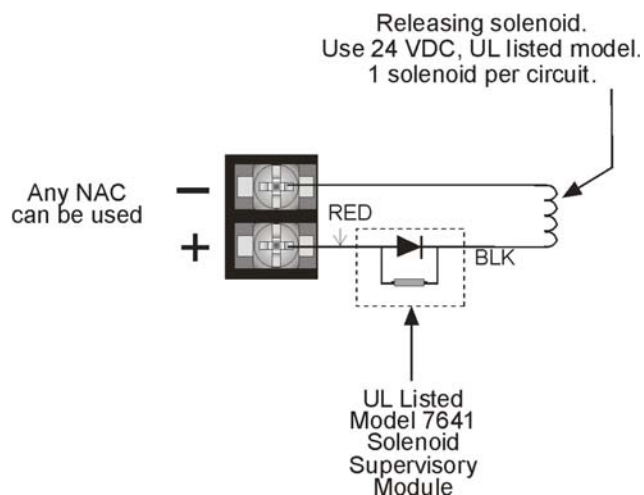


Figure 8-5 Wiring Configuration for Solenoid

Important!

Detectors must be installed at 0.7 times the linear spacing as described in NFPA 72, Chapter 2.

8.6.1 Single Interlock Zone Releasing

A single interlock zone utilizes a minimum of two addressable detectors, and a designated manual release switch.

Important!
Only addressable detectors can be used. No conventional detectors can be used.
Each Single Interlock Zone input requires at least one manual release switch.

Conditions Required for an Pre-Alert Output Activation

If any single addressable detector is activated, the "Pre-Alert" output will activate. This alerts the user that the initial stages required for a release condition are present. (Also refer to Table 8-3.)

Conditions required for an General Alarm and Release Output Activation

If two or more addressable detectors, or a manual release switch activate, the "Alarm" and the "Release" outputs will activate. (Also refer to Table 8-3.)

Table 8-3: Single Interlock Zone Operation

Inputs	Output Results							
1st Addressable Detector		4		4		4		4
2nd Addressable Detector			4	4			4	4
Manual Release Station					4	4	4	4
	Normal	Pre-Alert	Pre-Alert	Release and General Alarm	Release and General Alarm	Release and General Alarm	Release and General Alarm	Release and General Alarm

8.6.2 Double Interlock Zone Releasing

A Double Interlock Zone uses a minimum of two Addressable detectors, a designated manual release switch, and an interlock switch input. An interlock switch is typically a dry-contact pressure switch and will be referred to as an interlock/pressure switch in this document.

Important!
Only addressable detectors can be used. No conventional detectors can be used.
Each Single Interlock Zone input requires at least one manual release switch.
Each Double Interlock Zone input requires at least one Interlock/pressure switch

Conditions Required for a Pre-Alert Output Activation

If any single addressable detector is activated, the "Pre-Alert" output will activate. This alerts the user that the initial stages required for a release condition are present. (Also refer to Table 8-3.)

Conditions Required for a General Alarm Output Activation

If two addressable detectors, a manual release switch is activated, or an interlock switch is active, the "Pre-Alert", and "General Alarm" outputs will activate.

Conditions Required for a Release Output Activation

Any release requires the activation of an interlock switch, and either a manual release switch or 2 activated addressable detectors. When these conditions are met, the "Release" and "General Alarm" outputs will activate, and the "Alert" outputs will deactivate.

Table 8-4

Inputs	Output Results															
	Normal	Pre-Alert	Pre-Alert	Pre-Alert and General Alarm	Pre-Alert and General Alarm	Pre-Alert and General Alarm	Pre-Alert and General Alarm	Pre-Alert and General Alarm	Pre-Alert and General Alarm	Pre-Alert and General Alarm	Pre-Alert and General Alarm	Release and General Alarm	Release and General Alarm	Release and General Alarm	Release and General Alarm	
1st Addressable Detector		4		4		4		4		4		4		4		4
2nd Addressable Detector			4	4			4	4			4	4			4	4
Manual Release Station					4	4	4	4					4	4	4	4
Interlock/Pressure Switch									4	4	4	4	4	4	4	4